



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,416	04/21/2004	Nobuhiro Nakamura	252144US-2 CONT	4529
22850	7590	12/12/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			GUHARAY, KARABI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/828,416

Applicant(s)

NAKAMURA, NOBUHIRO

Examiner

Karabi Guharay

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment, filed on 9/26/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-8, 10-12 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-12 and 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/05, 2/05, 4/04</u> | 6) <input type="checkbox"/> Other: _____ |

Amendment, filed on 9/26/05 has been considered and entered.

Claims 1-8 & 10-12 & 14-22 are pending.

Claim 1 is amended and claims 14-22 are added.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 11-12, 14-18 & 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirahata et al. (JP 2001-351778).

Regarding claims 1-2, Shirahata discloses an organic EL display element comprising a first conductive layer (4), a second conductive layer (2) opposed to the first conductive layer, a driving circuit connecting terminal connected electrically with the first electrode (4) via supplementary wire (5), and an organic EL layer (3) disposed between first and second conductive layer, wherein the supplementary layer at least has one surface (8) layer containing Mo (see Abstract & paragraph 3 & 8), since organic EL device comprising several pixels (paragraph 4), thus it would have been obvious to one having ordinary skill in the art to have at least 30 supplementary wires.

Further Shirahata discloses a passive matrix EL display and discloses that the resistance of the extraction electrode made of Mo is less, thus configured to carry at least 50 mA of current.

Regarding claim 3, Shiraha discloses that the second electrode (2) is a transparent electrode, but fails to disclose ITO as the material for transparent electrode. However, ITO is a well known preferred material for transparent electrode, used in organic EL display.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use ITO, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. See MPEP 2144.07.

Regarding claim 4, Shirahata discloses that the supplementary wire has a layer made of Ag (paragraph 8).

Regarding claim 5, Shirahata discloses that the first conductive layer is connected to an etched surface of the layer containing Mo (paragraph 12).

Regarding claims 11, Shirahata discloses an organic EL display element comprising a first conductive layer (4), a second conductive layer (2) opposed to the first conductive layer, a driving circuit connecting terminal connected electrically with the first electrode (4) via supplementary wire (5), and an organic EL layer (3) disposed between first and second conductive layer, wherein the supplementary wire comprises at least 3 layers, barrier layer 8 made of Mo, Al layer, and an adhesion promotion layer 9 (see Fig 5), since organic EL device comprising several pixels (paragraph 4), thus it would have been obvious to one having ordinary skill in the art to have at least 30 supplementary wires.

Regarding claim 12 & 22, though Shirahata does not explicitly disclose driving circuits, they are inherently present in order to drive the organic EL display.

Claims 14, 15, 16, 17 recite essentially the same limitations of claims 2, 3, 4 & 5 respectively, thus claims 14, 15, 16 & 17 are rejected as claims 2, 3, 4 & 5.

Regarding claims 6 & 18, Shirahata discloses that the a portion of the first conductive layer connected to the layer containing Mo is defined by the insulating layer 6 (see paragraph 8).

Claims 7,8, 19 & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirahata as applied to claim 1, in view of Codama et al. (U.S. 6,1 14,805).

Regarding claims 7 & 19, Shirahata teaches all of the limitations of claim 7, but fails to teach wherein the Mo alloy contains Nb.

Codama et al. in the analogous ad teaches wherein the Mo alloy contains Nb (col. 8 lines 39-47; col. 8 line 30). Additionally, Codama et al. teaches incorporation of such a Mo alloy contains Nb to improve the thin film resistance of interconnection electrode (col. 8 lines 30-50) and provide a working interconnection electrode. Note choose an Mo alloy with Nb where is 10% at%.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use wherein the Mo alloy contains Nb in the auxiliary electrode of Hosokawa, since such a modification would improve the thin film resistance of interconnection electrode and provide a working interconnection electrode as taught by Codama et al.

Regarding claims 8 & 20, Codama discloses wherein the content of Nb in the Mo alloy is 5 to 20 atomic %. This claim is rejected for the same reasons found in claim 7.

Regarding claim 21, Shirahata fails to disclose that the first conductive material contains AL, however, Aluminum is a preferred material for forming metal electrodes for the display, thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use aluminum as the material for the first electrode in the device of Shirahata, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. See MPEP 2144.07.

Claims 1-3, 6 & 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagayama (JP 2000-243558).

Regarding claim 1-3 & 10, Nagayama teaches an organic EL (Fig 1-3 & 5) display element comprising a first conductive layer 9, made of aluminum, a second conductive layer (5), made of transparent ITO, opposed to the first conductive layer 9, a driving circuit connecting terminal connected electrically with the first electrode (9) via supplementary wire (11), and an organic EL layer (7) disposed between first and second conductive layer, wherein the supplementary layer at least has one surface layer containing Mo (see Abstract & paragraph 8), since organic EL device comprising several pixels (see Fig 1), thus it would have been obvious to one having ordinary skill in the art to have at least 30 supplementary wires (11) for forming a large display.

Further, Nagayama discloses a passive matrix EL display and discloses that the electrode leading part 11 is made of high melting point metal (paragraph 9), thus can be configured to carry at least 50 mA of current.

Regarding claim 6, Nagayama discloses that a portion of the first conductive layer (9) connected to the layer containing Mo is defined by an insulating film (see paragraph 13).

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Art Unit: 2879

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karabi Guharay
Primary Examiner
Art Unit 2879